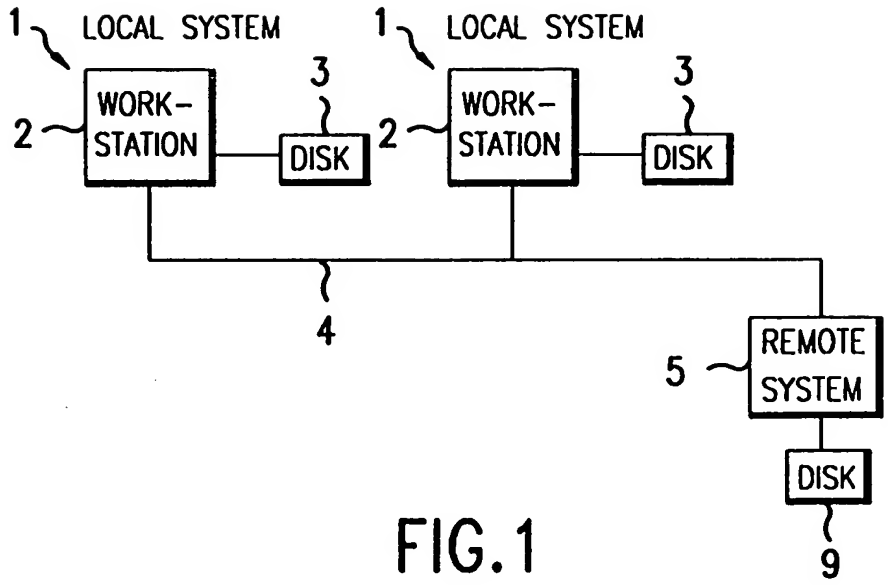
1
LOCAL SYSTEM
2
WORK-
STATION
3
DISK
1
LOCAL SYSTEM
2
WORK-
STATION
3
DISK
4
5
REMOTE
SYSTEM
DISK
9

FIG.1

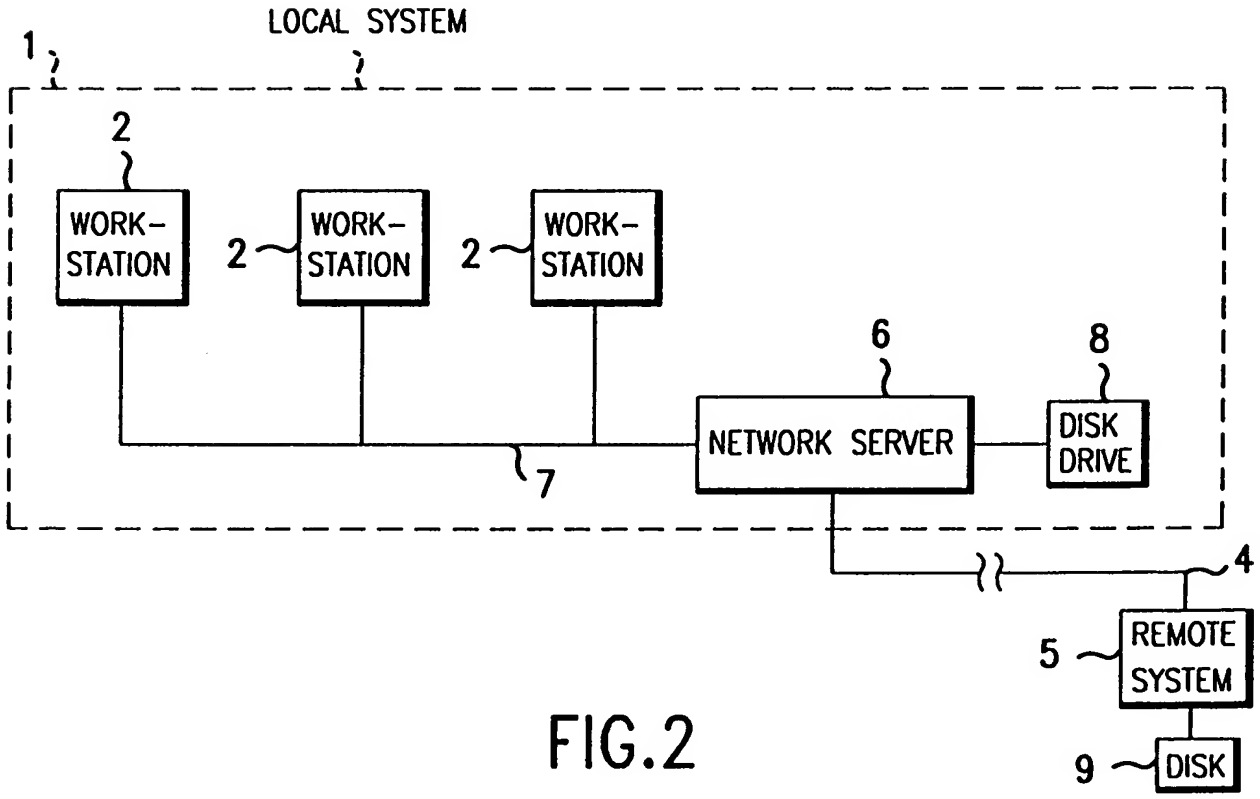
LOCAL SYSTEM
1
2
WORK-
STATION
2
WORK-
STATION
2
WORK-
STATION
6
NETWORK SERVER
8
DISK
DRIVE
7
4
5
REMOTE
SYSTEM
9
DISK

FIG.2

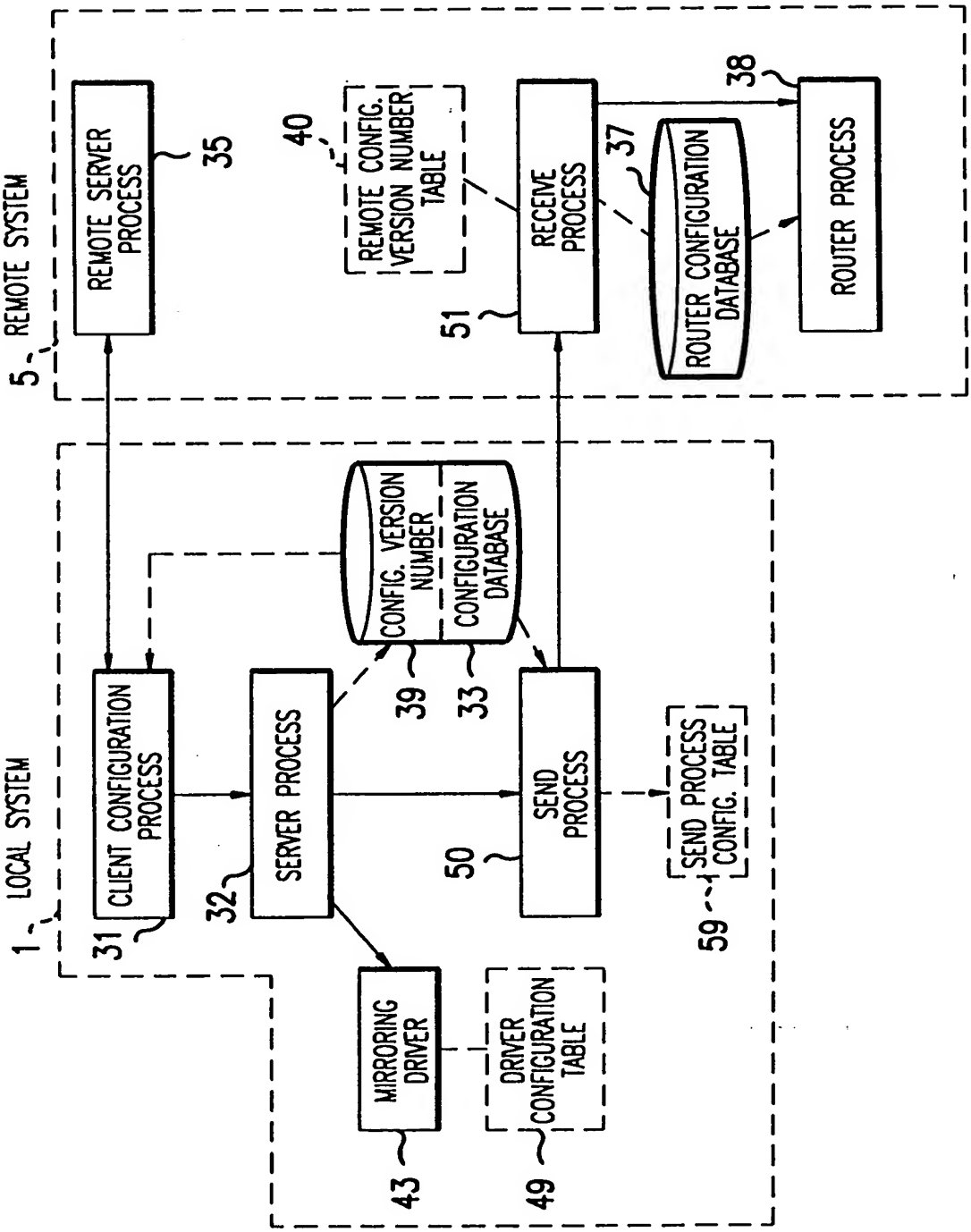
REMOTE SYSTEM
5
REMOTE SERVER PROCESS
35
40
REMOTE CONFIG. VERSION NUMBER TABLE
RECEIVE PROCESS
51
37
ROUTER CONFIGURATION DATABASE
38
ROUTER PROCESS
LOCAL SYSTEM
1
CLIENT CONFIGURATION PROCESS
31
SERVER PROCESS
32
CONFIG. VERSION NUMBER
CONFIGURATION DATABASE
39
33
SEND PROCESS
50
SEND PROCESS CONFIG. TABLE
59
MIRRORING DRIVER
43
DRIVER CONFIGURATION TABLE
49

FIG.3

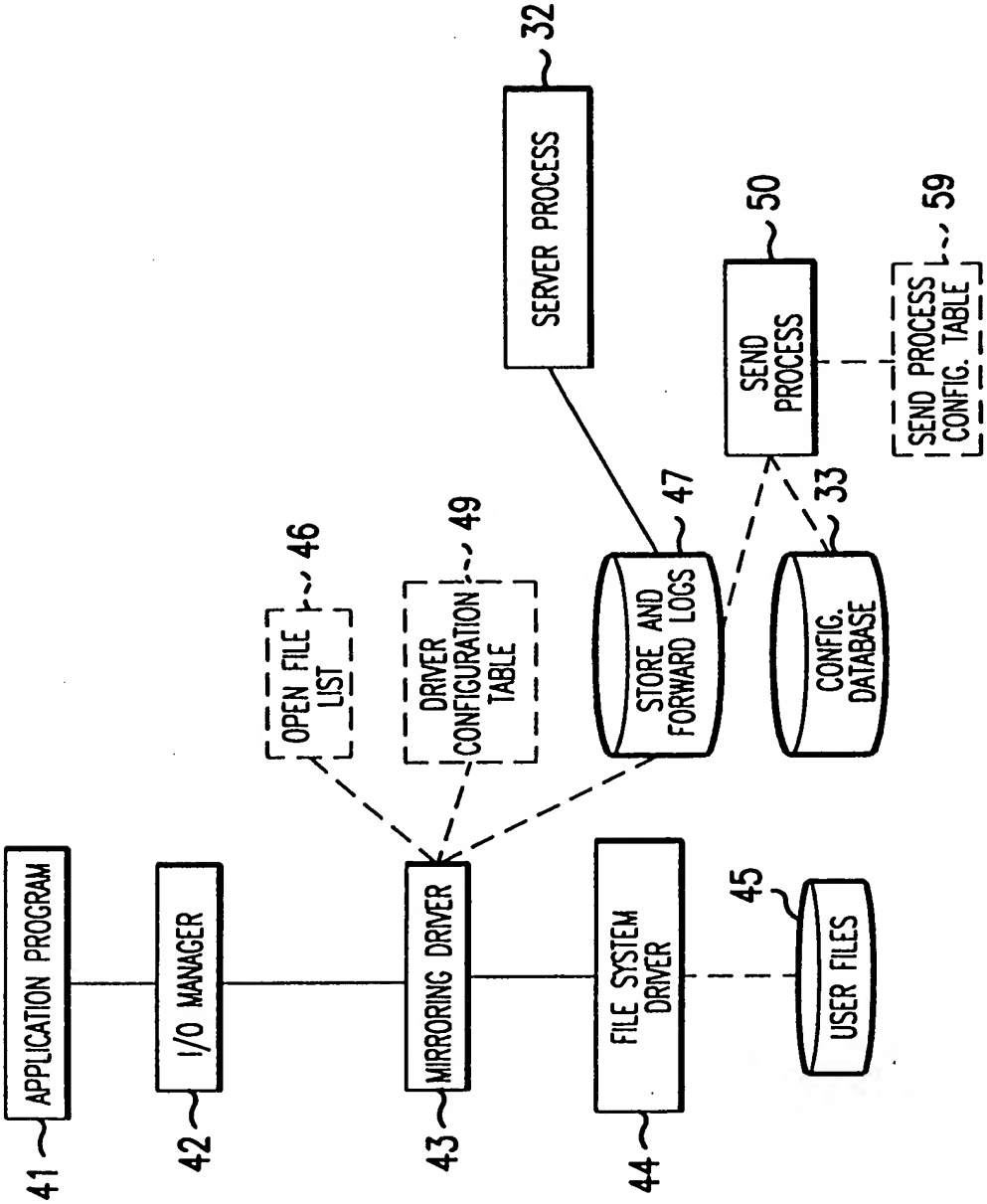
APPLICATION PROGRAM
I/O MANAGER
MIRRORING DRIVER
FILE SYSTEM DRIVER
USER FILES
OPEN FILE LIST
DRIVER CONFIGURATION TABLE
STORE AND FORWARD LOGS
CONFIG. DATABASE
SERVER PROCESS
SEND PROCESS
SEND PROCESS CONFIG. TABLE
41
42
43
44
45
46
47
49
32
33
50
59

FIG.4A

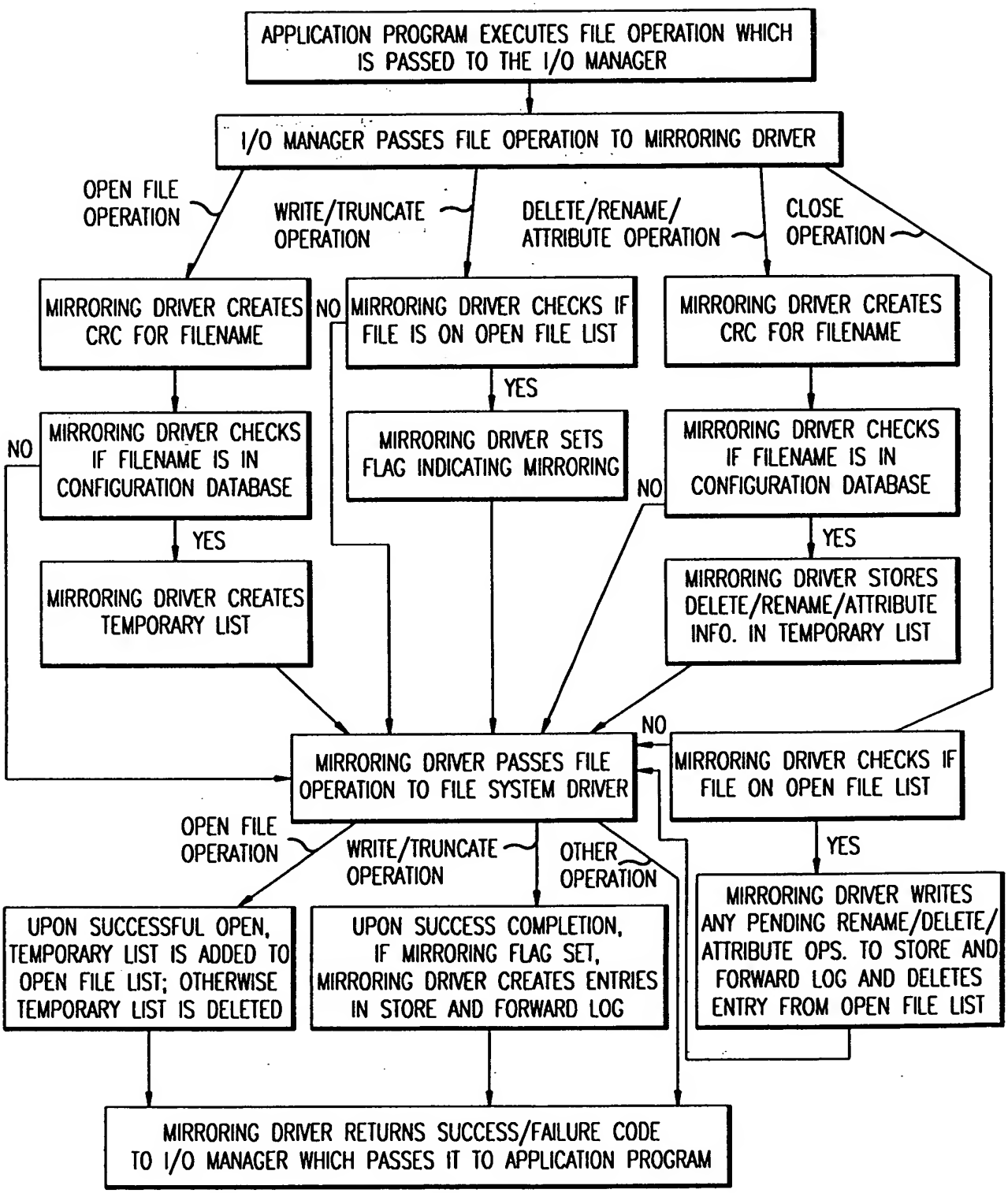
APPLICATION PROGRAM EXECUTES FILE OPERATION WHICH IS PASSED TO THE I/O MANAGER
I/O MANAGER PASSES FILE OPERATION TO MIRRORING DRIVER
OPEN FILE OPERATION
WRITE/TRUNCATE OPERATION
DELETE/RENAME/ ATTRIBUTE OPERATION
CLOSE OPERATION
MIRRORING DRIVER CREATES CRC FOR FILENAME
NO
MIRRORING DRIVER CHECKS IF FILE IS ON OPEN FILE LIST
MIRRORING DRIVER CREATES CRC FOR FILENAME
YES
NO
MIRRORING DRIVER CHECKS IF FILENAME IS IN CONFIGURATION DATABASE
MIRRORING DRIVER SETS FLAG INDICATING MIRRORING
NO
MIRRORING DRIVER CHECKS IF FILENAME IS IN CONFIGURATION DATABASE
YES
YES
MIRRORING DRIVER CREATES TEMPORARY LIST
MIRRORING DRIVER STORES DELETE/RENAME/ATTRIBUTE INFO. IN TEMPORARY LIST
NO
MIRRORING DRIVER PASSES FILE OPERATION TO FILE SYSTEM DRIVER
MIRRORING DRIVER CHECKS IF FILE ON OPEN FILE LIST
OPEN FILE OPERATION
WRITE/TRUNCATE OPERATION
OTHER OPERATION
YES
UPON SUCCESSFUL OPEN, TEMPORARY LIST IS ADDED TO OPEN FILE LIST; OTHERWISE TEMPORARY LIST IS DELETED
UPON SUCCESS COMPLETION, IF MIRRORING FLAG SET, MIRRORING DRIVER CREATES ENTRIES IN STORE AND FORWARD LOG
MIRRORING DRIVER WRITES ANY PENDING RENAME/DELETE/ ATTRIBUTE OPS. TO STORE AND FORWARD LOG AND DELETES ENTRY FROM OPEN FILE LIST
MIRRORING DRIVER RETURNS SUCCESS/FAILURE CODE TO I/O MANAGER WHICH PASSES IT TO APPLICATION PROGRAM

FIG.4B

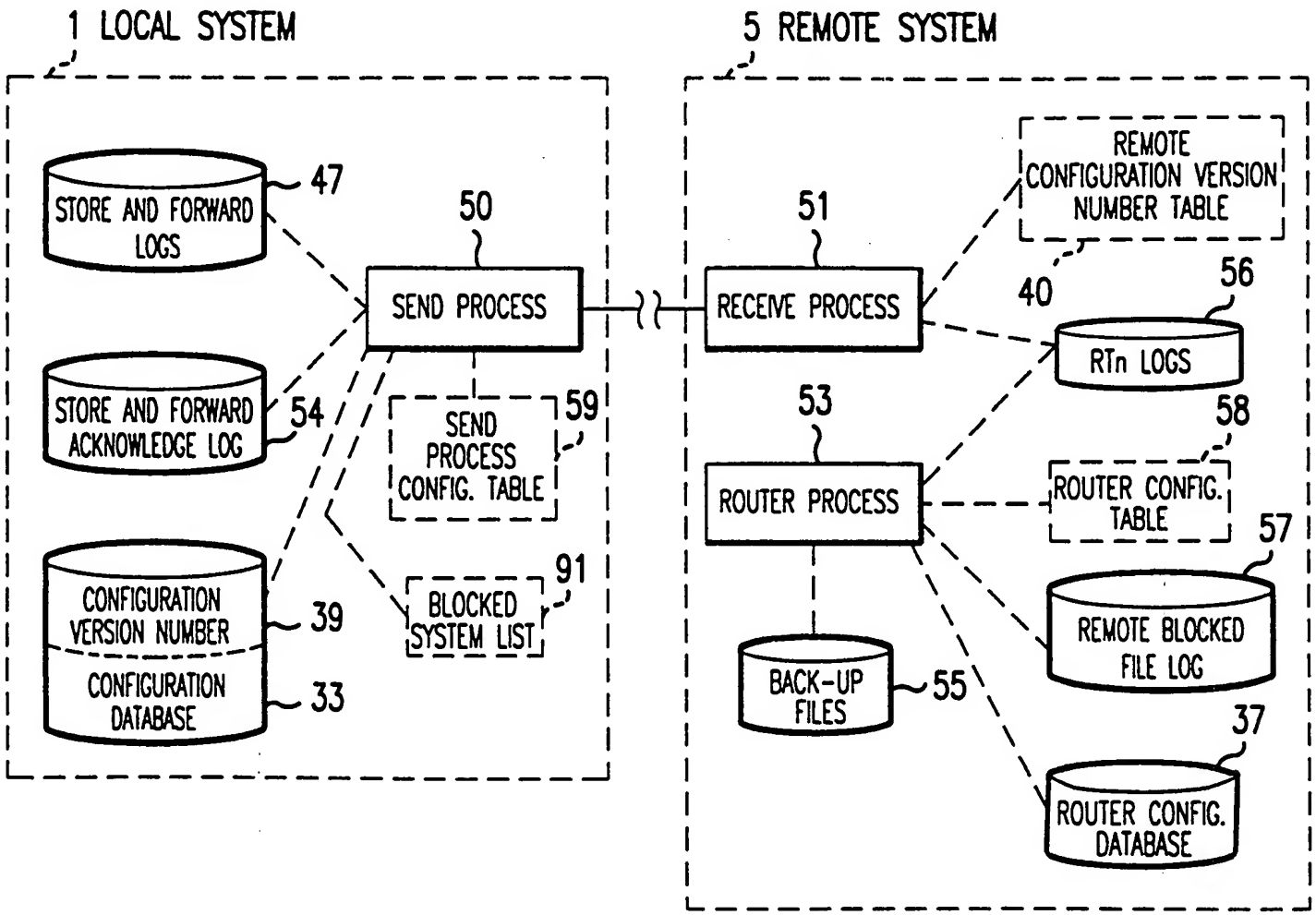
1 LOCAL SYSTEM
5 REMOTE SYSTEM
STORE AND FORWARD LOGS
47
50
SEND PROCESS
51
RECEIVE PROCESS
REMOTE CONFIGURATION VERSION NUMBER TABLE
40
56
RTn LOGS
STORE AND FORWARD ACKNOWLEDGE LOG
54
SEND PROCESS CONFIG. TABLE
59
53
58
ROUTER PROCESS
ROUTER CONFIG. TABLE
57
CONFIGURATION VERSION NUMBER
39
CONFIGURATION DATABASE
33
BLOCKED SYSTEM LIST
91
BACK-UP FILES
55
REMOTE BLOCKED FILE LOG
37
ROUTER CONFIG. DATABASE

FIG.5

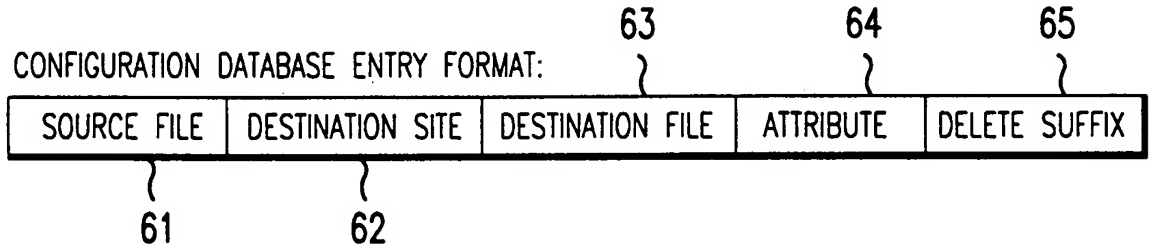
CONFIGURATION DATABASE ENTRY FORMAT:
63
64
65
SOURCE FILE
DESTINATION SITE
DESTINATION FILE
ATTRIBUTE
DELETE SUFFIX
61
62

FIG.6

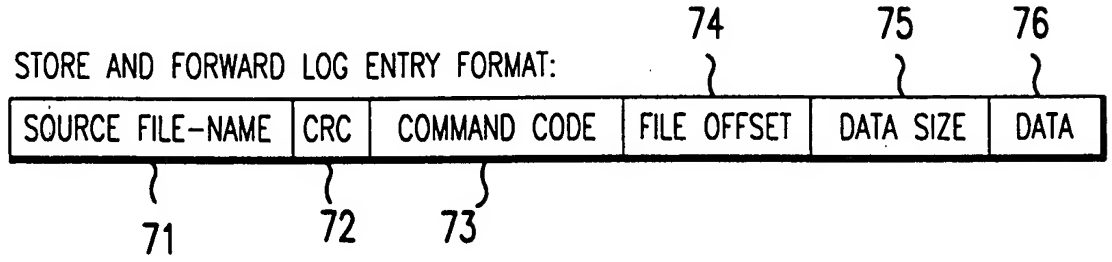
STORE AND FORWARD LOG ENTRY FORMAT:
74
75
76
SOURCE FILE-NAME
CRC
COMMAND CODE
FILE OFFSET
DATA SIZE
DATA
71
72
73

FIG.7

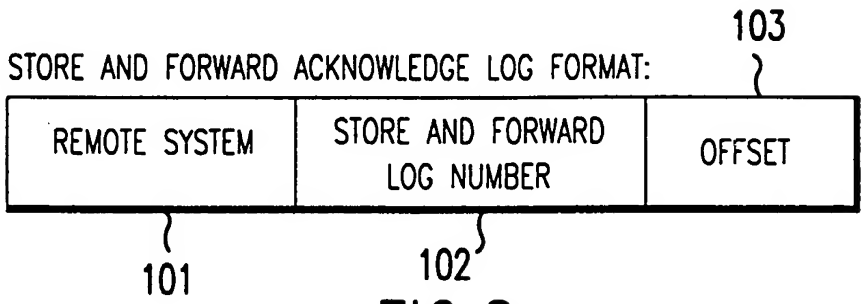

FIG.8

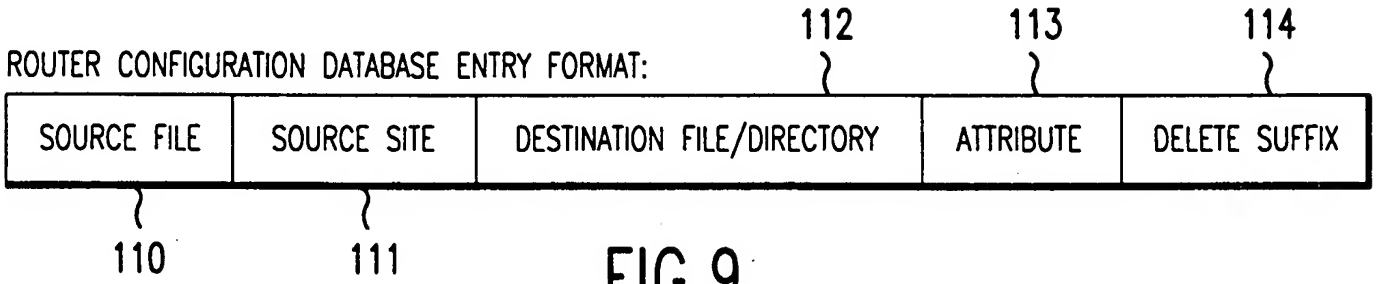

FIG.9

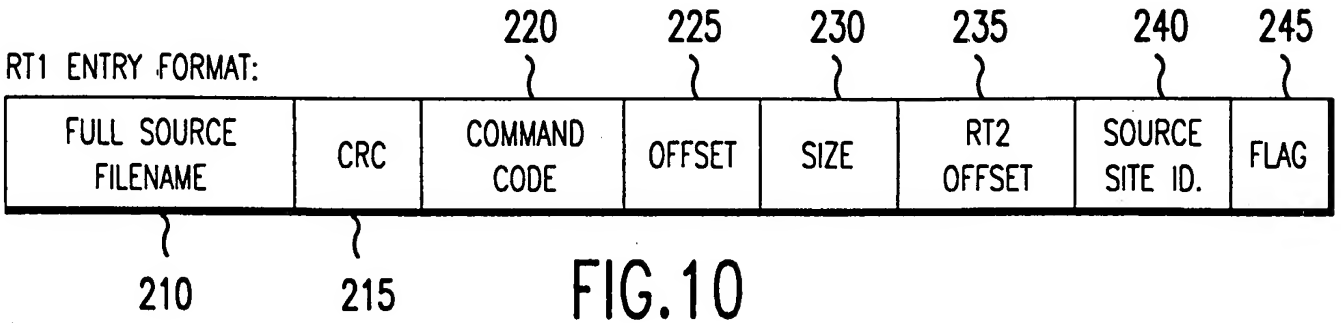

FIG.10